

APPENDIX A

The Modernization Forum's Manufacturing Extension Tools in Use Survey

The Modernization Forum, the association for America's manufacturing extension community, seeks your input for important NIST MEP-funded research into the tools that manufacturing extension field staff use to serve customer firms. **Please take 15 minutes to fill out this questionnaire and return it by Wednesday, December 18, to the Modernization Forum, 20501 Ford Road, Dearborn, MI 48128. The fax number is (313) 271-2791.** If you have any questions, please call Matt Kane at (313) 271-2790, ext. 4. All respondents will receive a report summarizing the survey results.

For the purposes of this questionnaire, **manufacturing extension tools are defined as packaged and transferable methods, materials, software and training course content that field staff use to perform functions or guide decisions when working with customer firms.** Examples include, but are not limited to, assessment methods for identifying priority improvement projects, worksheets for calculating the expected financial impact of an improvement project, software for simulating the impact of changes in plant floor layout, and software used to help a firm select the appropriate business information system.

1. Do you use manufacturing extension tools when you work with customer firms? ☐ YES
☐ NO

2. Please indicate how significant the following barriers are to your use of extension tools, using the scale:
1=not significant, 2=moderately significant, 3=significant, 4=very significant, 5=extremely significant.

	Not Significant			Extremely Significant	
I lack information about what tools are available.....	1	2	3	4	5
I lack information about how well the tools perform.....	1	2	3	4	5
The tools I would like to use are too expensive to buy.....	1	2	3	4	5
The tools may be inaccurate and lead to inappropriate action.....	1	2	3	4	5
Tools add little or nothing to what I already know.....	1	2	3	4	5
Use of tools may detract from my relationship with the customer.....	1	2	3	4	5
I don't believe tools can help me do my work.....	1	2	3	4	5
So many tools exist that I can't determine which ones to use	1	2	3	4	5
My extension center doesn't encourage tool use by field staff.....	1	2	3	4	5
Use of tools may speed up projects and reduce my billable hours.....	1	2	3	4	5

3. Please indicate how desirable it is to have extension tools for each of the following functions, using the scale: 1=not desirable, 2=moderately desirable, 3=desirable, 4=very desirable, 5=extremely desirable.

	Not Desirable			Extremely Desirable	
Identifying potential customers and making initial contact with them	1	2	3	4	5
Building the customer's awareness of the need for change.....	1	2	3	4	5
Distinguishing root causes of customer's problems from the symptoms	1	2	3	4	5
Identifying customer's problems in general.....	1	2	3	4	5
Recommending solutions, improvement projects for the customer.....	1	2	3	4	5
Analyzing the likely pay back from an improvement project.....	1	2	3	4	5
Guiding implementation decisions during a project.....	1	2	3	4	5
Guiding project management.....	1	2	3	4	5

If you do NOT use tools to perform functions or guide decisions when working with customer firms, please skip the remaining questions and return this questionnaire to the Modernization Forum. Thank you.

4. If you DO use manufacturing extension tools, please review the following tools list. For each tool, please circle "NA" if you are unfamiliar with the tool, OR circle a number at the right to indicate how frequently you use the tool, based on the following scale:

- 1= Never use (with 0% of your customer firms)
 2= Rarely use (with 1-10% of customers)
 3= Sometimes use (with 11-25% of customers)
 4= Often use (with 26-50% of customers)
 5= Usually use (with more than 50% of customers)

	Unfa- miliar with Tool	Never Use Tool (0%)	(1- 10%)	(11- 25%)	(26- 50%)	Usually Use Tool (50+%)
Overall Assessment Tools						
Achieving Enterprise Excellence (AEE).....	NA	1	2	3	4	5
Competitiveness Review.....	NA	1	2	3	4	5
Energy, Environmental and Manufacturing Assessment (EEM).....	NA	1	2	3	4	5
High Impact Assessment.....	NA	1	2	3	4	5
Manufacturing Assessment Methodology (MAM).....	NA	1	2	3	4	5
Performance Benchmarking Service.....	NA	1	2	3	4	5
PRISM Manufacturing Assessment Tool.....	NA	1	2	3	4	5
QuickView.....	NA	1	2	3	4	5
SITE (Strategies to Increase your Total Effectiveness).....	NA	1	2	3	4	5
How Does Your Company Measure Up in the 90s.....	NA	1	2	3	4	5
Other overall assessment tools: _____		1	2	3	4	5
Process Improvement, Plant Layout, Manufacturing Cells						
ARENA.....	NA	1	2	3	4	5
Correl Flow.....	NA	1	2	3	4	5
Factory CAD, Factory Flow, Factory Plan.....	NA	1	2	3	4	5
Flow Model.....	NA	1	2	3	4	5
Micro Saint.....	NA	1	2	3	4	5
PowerSim.....	NA	1	2	3	4	5
ProModel.....	NA	1	2	3	4	5
Taylor II.....	NA	1	2	3	4	5
Mold Flow.....	NA	1	2	3	4	5
ASQC Mapping Work Processes.....	NA	1	2	3	4	5
PC Toolcrib Software.....	NA	1	2	3	4	5
Tool Storage and Management Software.....	NA	1	2	3	4	5
Other process improvement and layout tools: _____		1	2	3	4	5
Production Planning and Scheduling						
FACTOR.....	NA	1	2	3	4	5
AutoSched.....	NA	1	2	3	4	5
PROVISA.....	NA	1	2	3	4	5
Other production planning and scheduling tools: _____		1	2	3	4	5
Systems for Business, CAD/CAM, Manufacturing Control						
BuySmart/ChooseSmart.....	NA	1	2	3	4	5
ITS Guide to PC-Based Software for the Manufacturing Industry	NA	1	2	3	4	5
Computer Select.....	NA	1	2	3	4	5
Software Selection Tool: Business Systems from NCMS/GLMTC	NA	1	2	3	4	5
CAD Rating	NA	1	2	3	4	5
Guide.....		1	2	3	4	5
Other software selection tools: _____						

EDI/Communications/LAN

EDI Project Planner and other EDI implementation tools from AIAG	NA	1	2	3	4	5
EDI Readiness Grid.....	NA	1	2	3	4	5
EDI Implementation Plan Templates from ITI's CEC.....	NA	1	2	3	4	5
/AN Selection Tool from ECRC.....	NA	1	2	3	4	5
DOMNET, LANNET, NETWORK.....	NA	1	2	3	4	5
MOGUL.....		1	2	3	4	5
Other EDI/EC & communication tools: _____						

Financial

OTS Cost-Justifier for Manufacturing.....	NA	1	2	3	4	5
isCAL.....	NA	1	2	3	4	5
PACEE.....	NA	1	2	3	4	5
Score.....		1	2	3	4	5
Other financial analysis tools: _____						

Quality and Inspection

ISO 9000 Checklist from Georgia Tech.....	NA	1	2	3	4	5
SOScore.....	NA	1	2	3	4	5
earnerFirst: How to Implement ISO 9000.....		1	2	3	4	5
Other quality tools: _____						

Inspection tools: _____

Human Resources

ASTD Trainer's Toolkit.....	NA	1	2	3	4	5
oad to High Performance Workplaces.....	NA	1	2	3	4	5
DISC--Personality Profile for Managers.....	NA	1	2	3	4	5
Employee Opinion Survey from Georgia Tech.....	NA	1	2	3	4	5
Human Resources Assessment Protocol.....	NA	1	2	3	4	5
Other human resources tools: _____						

Environmental, Energy and Regulation

GreenScore.....	NA	1	2	3	4	5
Industrial Solid Waste Reduction Workbook from University of TN	NA	1	2	3	4	5
Manufacturing Energy Analysis.....	NA	1	2	3	4	5
OSHA Self-Inspection Checklist.....	NA	1	2	3	4	5
AGE (Solvent Alternatives Guide).....	NA	1	2	3	4	5
Self-Audit Manual for Metal Finishers.....	NA	1	2	3	4	5
P2 Finance from Tellus Institute.....	NA	1	2	3	4	5
Waste Reduction Assessment from CAMP/GLMTC.....	NA	1	2	3	4	5
Waste Reduction Assessment for Fabricated Metal Products Indust.	NA	1	2	3	4	5
Facility Waste Reduction Manual from EPA.....	NA	1	2	3	4	5
Other environmental, energy and regulation tools: _____						

Business Planning and Marketing

BizPlan Builder.....	NA	1	2	3	4	5
Checklist for Evaluating New Ideas and Ventures.....	NA	1	2	3	4	5
Market Advisors Market Engineering Tools.....	NA	1	2	3	4	5
Other business planning and marketing tools: _____						

Other Tools

Total Quality Joining Assessment Methodology.....	NA	1	2	3	4	5
Program Managers Workstation for Best Manufacturing Practices	NA	1	2	3	4	5

NA	1	2	3	4	5
NA	1	2	3	4	5
NA	1	2	3	4	5
NA	1	2	3	4	5
NA	1	2	3	4	5
NA	1	2	3	4	5

NA	1	2	3	4	5
NA	1	2	3	4	5
NA	1	2	3	4	5
NA	1	2	3	4	5
	1	2	3	4	5

NA	1	2	3	4	5
NA	1	2	3	4	5
NA	1	2	3	4	5
	1	2	3	4	5
	1	2	3	4	5

NA	1	2	3	4	5
NA	1	2	3	4	5
NA	1	2	3	4	5
NA	1	2	3	4	5
NA	1	2	3	4	5
	1	2	3	4	5

Unfa- miliar with Tool	Never Use Tool (0%)	(1- 10%)	(11- 25%)	(26- 50%)	Usually Use Tool (50+%)
NA	1	2	3	4	5
NA	1	2	3	4	5
NA	1	2	3	4	5
NA	1	2	3	4	5
NA	1	2	3	4	5
NA	1	2	3	4	5
NA	1	2	3	4	5
NA	1	2	3	4	5
NA	1	2	3	4	5
NA	1	2	3	4	5
	1	2	3	4	5

Rapid prototyping tools: _____

 Industrial CAT scan tools: _____

 Other tools, both commercial or self-developed: _____

1	2	3	4	5
1	2	3	4	5
1	2	3	4	5
1	2	3	4	5
1	2	3	4	5
1	2	3	4	5
1	2	3	4	5
1	2	3	4	5

5. How long have you worked in the field of manufacturing extension?

<input type="checkbox"/> Less than 1 year	<input type="checkbox"/> More than 3 years but less than 5
<input type="checkbox"/> More than 1 year but less than 3	<input type="checkbox"/> More than 5 years

6. Please list up to five tools you consider to be the most useful for manufacturing extension work with customer firms AND circle your favorite one.

1. _____
2. _____
3. _____
4. _____
5. _____

7. For the favorite tool you circled above, please indicate how significant the following characteristics are to your positive evaluation of that tool, using the scale: 1=not significant, 2=moderately significant, 3=significant, 4=very significant, 5=extremely significant.

	<i>Not Significant</i>			<i>Extremely Significant</i>	
Breaks the ice with customer firms.....	1	2	3	4	5
Performs accurately.....	1	2	3	4	5
Maintains quality of service across projects for different customers	1	2	3	4	5
Costs relatively little to purchase for use.....	1	2	3	4	5
Comes with training and support for the tool user.....	1	2	3	4	5
Is easy to use.....	1	2	3	4	5
Can be used for customer firms in a wide variety of circumstances	1	2	3	4	5
Integrates well with the other tools that I use.....	1	2	3	4	5
Saves time and money.....	1	2	3	4	5
Can be used by the customer firms themselves.....	1	2	3	4	5
Other: _____	1	2	3	4	5
_____	1	2	3	4	5

8. How did you hear about the manufacturing extension tools that you use. Please check all that apply.

- | | |
|--|---|
| <input type="checkbox"/> Customer firms | <input type="checkbox"/> Trade and industry publications |
| <input type="checkbox"/> Tools catalogs | <input type="checkbox"/> Conferences and seminars |
| <input type="checkbox"/> Other manufacturing extension field staff | <input type="checkbox"/> Trade shows |
| <input type="checkbox"/> Extension center directors and managers | <input type="checkbox"/> My center has a standard set of tools for use with firms |
| <input type="checkbox"/> Other: _____ | |

Thank you for completing this important questionnaire. Please return it by Wednesday, December 18, to the Modernization Forum, 20501 Ford Road, Dearborn, MI 48128, FAX = (313) 271-2791.

APPENDIX B: Respondent Write-ins for Other Tools Used (Ques. 4)

Overall Assessment Tools

CAP Needs Assessments
Chicago Manufacturing Center custom assessment
Our own marketing audit and financial assessment
In-house profile
OK Excellence
Self designed
Team Plan View (Wisconsin Department of Commerce)
One-day machining assessment
Interviews (both individual & group)
Our own internal mini assessment
Business needs analysis
P2T2
CAMP Human Resources Assessment Protocol
Health & Safety Assessment
California Manufacturing Technology Center internal
Manufacturers Resource Center assessments

Process Improvement, Plant Layout, Manufacturing Cells

ABC Flowcharter
Flow charts
Our own software tools
Manual
PI, CI, TQM, DFM
Our own plant layout/workflow assessment
Visio
Auto Cad

Production Planning & Scheduling

Inspiration Software (MAC)
MRP2 software
Our own tools
JIT
MS Project
Tactic, shiver, avyx

Systems for Business, CAD/CAM, Manufacturing Control

CAP User's Guide
CAMP database
Co-worker recommendations
CAMP
BDO Seidman's Guide to MRP2 software

EDI/Communications/LAN

Co-workers opinions

VANSAT

GEIS

Financial

Activity based accounting

WIN credit

Spreadsheets

Wisconsin MEP-developed Excel tool that does most of what fisCAL does

Private consulting services

Written resources on "How to..." guides

Our own financial mini assessment

BiFAR

BiFAR form IBMT (includes FisCAL)

Spreadsheets

Profitrak

BiFAR

BiFAR segment of High Impact Assessment

Quality & Inspection

Quality Tools:

ISO 9000 Gap Audits & Collaborative Consultants

Consultants

ISO 9000 & QS 9000 checklist from an accredited registrar and document review checklist

CIRAS/Iowa MTC ISO checklist

ISO net

Perry Johnson lead auditor materials (checksheets, plan, schedule)

ISO 9000 GAP Analysis

ISO 9000 GAP, ISO 14000 GAP, QS 9000 GAP

In-house ISO network

MCP ISO/QS 9000 Program from South Carolina MEP

Baldrige criteria self designed - ISO

Private consulting services, e.g. ISONet, TWS, etc.

Harrington's "step by step"

ISO 9000 checklist from AQA

Our own quality mini assessment

Massachusetts Manufacturing Program self assessment questionnaire

Inspection Tools:

No write-ins

Human Resources

Work Profile System
Work Keys
DDI team development survey, Thomas Kilman
Conflict Mode Instrument
Private consulting services
A.C.T. Work Keys
Employee Opinion Survey
PeopleView employee feedback survey, Wisconsin Department of Commerce
Various & sundry-mostly written guides or published instruments that can be copied
Our own human resources mini assessment
Workforce Destinations
Workforce Destinations

Environmental, Energy and Regulation

P2 IRIS (in Beta release)
MSHA Inspection checklist
P2
Our own energy audit, environmental audit from sister center
Iowa Waste Reduction Center
* Solid & Hazardous Waste Educational Center, University of Wisconsin
TURI, OTA
ISO 14000
Competitiveness Review
Self-assessment workbook for small manufacturers from Rutgers
Our own environmental mini assessment
Our own waste reduction & energy methodologies
Safety & Health survey audit
Several through Illinois energy/environmental

Business Planning & Marketing

SUCCESS - Business Planner
AMA - strategic planning
Own package developed for S.P.
Private consulting services
Our own planning/marketing mini assessment
SShare Online
SBDC business plan

Other Tools

Rapid Prototyping:

- Sterolithgraphy
- Microsoft Project
- Autosketch
- Milwaukee School of Engineering or U.M. Madison College of Engineering
- From Oak Ridge National Labs
- Automated Bid Service
- Mil Spec Library
- Parts History
- Pro-engineer

Industrial CAT Scan:

- No write-ins

Other tools, commercial and self-developed:

- Turbo Cad
- Excel
- Mike Collins Industrial Marketing materials/books
- Magmasoft
- Flow 3D
- ProEngineer
- AFSolid
- Company View (Wisconsin Department of Commerce)
- Team Plan View (Wisconsin Department of Commerce)
- People View (Wisconsin Department of Commerce)
- Value Added Manufacturing

APPENDIX C: Count of Users for Tools from Question 4

<i>Name of Tool</i>	<i>Number Using Tool</i>	<i>Percentage of Tool Users Using This Tool</i>
<i>Overall Assessment Tools</i>		
Achieving Enterprise Excellence	3	1.8
Competitiveness Review	11	6.7
Energy, Environmental and Mfg Assessment	13	7.9
High Impact Assessment	22	13.3
Manufacturing Assessment Method	21	12.7
Performance Benchmarking	111	67.3
PRISM Manufacturing Assessment	10	6.1
QuickView	105	63.6
SITE Assessment	30	18.2
How Does Your Company Measure	3	1.8
<i>Process Improvement, Plant Layout and Manufacturing Cells</i>		
ARENA	7	4.2
CoreiFLOW	11	6.7
Factory CAD, Flow, Plan	32	19.4
Flow Model	5	3.0
Micro Saint	1	0.6
PowerSim	2	1.2
ProModel	18	10.9
Taylor II	1	0.6
Mold Flow	8	4.8
ASQC Mapping Work Processes	8	4.8
PC Toolcrib Software	5	3.0
Tool Storage & Management Softwr	3	1.8
<i>Production Planning and Scheduling</i>		
FACTOR	1	0.6
AutoSched	7	4.2
PROVISA	3	1.8
<i>Systems for Business, CAD/CAM, Manufacturing Control</i>		
BuySmart/ChooseSmart	16	9.7
CTS Guide to PC-Based Software	26	15.8
Computer Select	3	1.8
Software Selection Tool from NCMS/GLMTC	32	19.4
CAD Rating Guide	12	7.3
<i>EDI/Communications/LAN</i>		
EDI Project Planner, other EDI tools from AIAG	5	3.0
EDI Readiness Grid	3	1.8
EDI Implementation Plan Templates	4	2.4
VAN Selection Tool from ECRC	7	4.2
COMNET, LANNET, NETWORK	1	0.6
MOGUL	1	0.6

<i>Name of Tool</i>	<i>Number Using Tool</i>	<i>Percentage of Tool Users Using This Tool</i>
<i>Financial</i>		
CTS Cost-Justifier for Manufacturing	5	3.0
fisCAL	45	27.3
PACEE	4	2.4
Z Score	28	17.0
<i>Quality and Inspection</i>		
ISO 9000 Checklist from Georgia Tech	14	8.5
ISOScore	5	3.0
LeanerFirst: Implement ISO 9000	2	1.2
<i>Human Resources</i>		
ASTD Trainer's Toolkit	4	2.4
Road to High Performance Workplace	2	1.2
DISC--Personality Profile for Managers	10	6.1
Employee Opinion Survey from Georgia Tech	4	2.4
Human Resources Assessment Protocol	8	4.8
<i>Environmental, Energy and Regulation</i>		
GreenScore	1	0.6
Industrial Solid Waste Reduction	8	4.8
Manufacturing Energy Analysis	3	1.8
OSHA Self-Inspection Checklist	23	13.9
SAGE	12	7.3
Self-Audit Manual for Metal Finishers	4	2.4
P2 Finance from Tellus Institute	4	2.4
Waste Reduction Assessment	6	3.6
Waste Reduct. Assess.for Fabricated Metal	2	1.2
Facility Waste Reduction Manual from EPA	6	3.6
<i>Business Planning and Marketing</i>		
BizPlan Builder	19	11.5
Checklist for Evaluating New Ideas	4	2.4
Market Advisors Market Engineering	4	2.4
<i>Other Tools</i>		
Total Quality Joining Assessment	6	3.6
Program Managers Workstation	4	2.4

APPENDIX D: Full List of Tools Written in by Respondents as Most Useful

The list leaves off generic mentions, such as "assessment" "continuous improvement" and "ISO 9000."

<i>Name of Tool</i>	<i>Number of Write-ins</i>
ABC Flowcharter	2
AF solid	1
Arena	1
ASQC Mapping Work Processes	2
Auto bid service	1
Autocad	2
Autosled	1
Auto sketch	1
Baldrige (criteria self assess checklist)	2
BizPlan Builder	2
BuySmart	2
CAD Selection	1
CITE Assessment	2
Competitiveness Review	6
Comprehensive list of fed, state grant and loans	1
CoreiFLOW	2
CTS (no further specification)	5
CTS Cost Justifier	3
CTS Guide to PC-Based Software	6
DISC--Personality Profile for Managers	1
DVIRC Cellular Manufacturing Program	1
ECM assess	1
Energy, Environmental and Mfg Assessment	3
Explorer Satisfaction	1
Factory CAD/Flow/Plan	6
fisCal	21
Flow 3rd	1
Fundamentals of field engineer	1
G-Hall manufacturing database	1
Harrington's step by step for ISO 9000 & QS 9000	1
Health and safety assessment	1
High Impact Assessment & BI-FAR	18
HRAP & mini-HRAP	5
Imi	1
Intro to EDI software from ECRC program	2
ISO 9000 Checklist	8
ISO 9000/QS9000 Gap (Analysis)	3
ISO 9000 & QS9000 review checklist	1
ISO Score	3
Juran Institute Strategic Planning Guide	1
Lotus Notes	1
Magmasoft	1
Making Software Selection Easy	1
Manufacturing Assessment Methodology	7
Manual marketing assessment	1
Michael Collins Industrial Marketing Materials	1
Microsoft Office	1
	<i>Number of</i>

<i>Name of Tool</i>	<i>Write-ins</i>
Microsoft Project	3
Mold Flow	1
New York State Industrial Effectiveness Program	1
Oklahmoa Excellence	2
OSHA Checklist	2
P2 Finance	1
Pacee	1
PeopleView	1
Performance Benchmarking	65
PRISM Manufacturing Assessment	6
Process flow analysis (spreadsheet)	1
Pro Engineer	2
Profitrak	1
ProModel	4
Quality system assessment	1
QuickView	57
Resource Look	1
SAGE	1
Setup reduction program	1
SITE Assessment	14
SMED	1
Software Selection Tool	15
Team Based Problem Solving	1
Team Plan View	1
TECnet	3
Tellus	1
Teltech	2
VAN selection tool	1
University capstone projects	1
Waste Reduction Assessment	1
Wilson sales training	1
Workforce Destinations	2
Work Keys	1
Work Profiling System	3

APPENDIX E: Testing for Statistical Significance

Mean scores for survey questions 2, 3 and 7 were tested to determine if the variations were statistically significant using the standard T-test at the 95 percent confidence interval. For extapolations from a sample to a population, the population's mean is equal to the sample mean plus or minus $t_{.025}$ multiplied by the result of the sample's standard error (the standard deviation divided by the square root of the number of observations).

The following table presents the sample means, the high and low ranges derived from the T-test, the standard deviations and the number of observations (total number of respondents answering the question). The table shows these data for all respondents to questions 2, 3 and 7, as well as selected subgroups.

Standard Errors and Mean Ranges for Questions 2, 3 and 7

		<i>Low</i>	<i>High</i>		
	<i>Mean</i>	<i>Range</i>	<i>Range</i>	<i>StDev</i>	<i>n</i>
<i>Question 2--All Respondents</i>					
I lack information about what tools are available	3.32	3.16	3.48	1.25	227
I lack information about how well the tools perform	3.78	3.63	3.93	1.16	225
The tools I would like to use are too expensive to buy	2.82	2.66	2.98	1.23	217
The tools may be inaccurate and lead to inappropriate action	2.66	2.49	2.83	1.25	212
Tools add little or nothing to what I already know	2.07	1.93	2.21	1.03	216
Use of tools may detract from my relationship with customer	1.97	1.83	2.11	1.09	218
I don't believe tools can help me do my work	1.55	1.44	1.66	0.85	217
So many tools exist that I can't determine which ones to use	2.57	2.41	2.73	1.19	219
My extension center doesn't encourage tool use by field staff	1.94	1.78	2.10	1.19	216
Use of tools may speed up projects and reduce billable hours	1.91	1.74	2.08	1.30	217

		<i>Low</i>	<i>High</i>		
	<i>Mean</i>	<i>Range</i>	<i>Range</i>	<i>StDev</i>	<i>n</i>
<i>Question 2--Yes to Use Tools</i>					
I lack information about what tools are available	3.19	3.00	3.38	1.24	164
I lack information about how well the tools perform	3.72	3.54	3.90	1.19	163
The tools I would like to use are too expensive to buy	2.92	2.73	3.11	1.23	158
The tools may be inaccurate and lead to inappropriate action	2.66	2.46	2.86	1.26	158
Tools add little or nothing to what I already know	2.03	1.88	2.18	0.98	158
Use of tools may detract from my relationship with customer	1.94	1.78	2.10	1.05	158
I don't believe tools can help me do my work	1.45	1.33	1.57	0.75	158
So many tools exist that I can't determine which ones to use	2.55	2.37	2.73	1.17	159
My extension center doesn't encourage tool use by field staff	1.79	1.62	1.96	1.08	158
Use of tools may speed up projects and reduce billable hours	2.00	1.78	2.22	1.39	158

	<i>Low High</i>				
<i>Question 2--No to Use Tools</i>	<i>Mean</i>	<i>Range</i>	<i>Range</i>	<i>StDev</i>	<i>n</i>
I lack information about what tools are available	3.65	3.34	3.96	1.22	63
I lack information about how well the tools perform	3.94	3.67	4.21	1.08	62
The tools I would like to use are too expensive to buy	2.56	2.24	2.88	1.22	59
The tools may be inaccurate and lead to inappropriate action	2.63	2.30	2.96	1.23	54
Tools add little or nothing to what I already know	2.19	1.89	2.49	1.15	58
Use of tools may detract from my relationship with customer	2.03	1.73	2.33	1.18	60
I don't believe tools can help me do my work	1.81	1.54	2.08	1.03	59
So many tools exist that I can't determine which ones to use	2.63	2.30	2.96	1.26	60
My extension center doesn't encourage tool use by field staff	2.36	2.00	2.72	1.36	58
Use of tools may speed up projects and reduce billable hours	1.68	1.41	1.95	1.02	59

	<i>Low High</i>				
<i>Question 3--All Respondents</i>	<i>Mean</i>	<i>Range</i>	<i>Range</i>	<i>StDev</i>	<i>n</i>
Identifying potential customers and making initial contact	3.36	3.17	3.55	1.43	225
Building the customer's awareness of the need for change	3.87	3.73	4.01	1.09	226
Distinguishing root causes of problems from symptoms	3.98	3.84	4.12	1.07	226
Identifying customer's problems in general	3.69	3.56	3.82	1.03	226
Recommending solutions, improvement projects for customer	3.74	3.60	3.88	1.07	227
Analyzing the likely pay back from an improvement project	3.95	3.80	4.10	1.13	227
Guiding implementation decisions during a project	3.40	3.25	3.55	1.15	225
Guiding project management	3.24	3.09	3.39	1.15	225

	<i>Low High</i>				
<i>Question 3--Yes to Use Tools</i>	<i>Mean</i>	<i>Range</i>	<i>Range</i>	<i>StDev</i>	<i>n</i>
Identifying potential customers and making initial contact	3.35	3.14	3.56	1.40	163
Building the customer's awareness of the need for change	3.91	3.74	4.08	1.12	164
Distinguishing root causes of problems from symptoms	4.05	3.88	4.22	1.08	164
Identifying customer's problems in general	3.74	3.58	3.90	1.06	164
Recommending solutions, improvement projects for customer	3.80	3.63	3.97	1.10	164
Analyzing the likely pay back from an improvement project	3.90	3.72	4.08	1.18	164
Guiding implementation decisions during a project	3.41	3.23	3.59	1.19	164
Guiding project management	3.26	3.08	3.44	1.19	164

	<i>Low</i>		<i>High</i>		
<i>Question 3--No to Use Tools</i>	<i>Mean</i>	<i>Range</i>	<i>Range</i>	<i>StDev</i>	<i>n</i>
Identifying potential customers and making initial contact	3.39	3.01	3.77	1.51	62
Building the customer's awareness of the need for change	3.76	3.50	4.02	1.02	62
Distinguishing root causes of problems from symptoms	3.77	3.50	4.04	1.05	62
Identifying customer's problems in general	3.56	3.32	3.80	0.95	62
Recommending solutions, improvement projects for customer	3.59	3.34	3.84	0.98	63
Analyzing the likely pay back from an improvement project	4.08	3.83	4.33	0.99	63
Guiding implementation decisions during a project	3.38	3.11	3.65	1.05	61
Guiding project management	3.18	2.92	3.44	1.02	61

	<i>Low</i>		<i>High</i>		
<i>Question 7--All Respondents (Yes to Use Tools)</i>	<i>Mean</i>	<i>Range</i>	<i>Range</i>	<i>StDev</i>	<i>n</i>
Breaks the ice with customer firms	3.35	3.13	3.57	1.26	124
Performs accurately	3.81	3.65	3.97	0.90	125
Maintains quality of service across projects for different firms	3.50	3.29	3.71	1.18	121
Costs relatively little to purchase for use	3.71	3.51	3.91	1.11	123
Comes with training and support for the tool user	3.03	2.79	3.27	1.35	121
Is easy to use	3.78	3.60	3.96	1.01	124
Can be used for firms in a wide variety of circumstances	4.07	3.90	4.24	0.99	127
Integrates well with the other tools that I use	3.46	3.23	3.69	1.27	120
Saves time and money	3.80	3.61	3.99	1.07	124
Can be used by the customer firms themselves	2.98	2.72	3.24	1.46	124

	<i>Low</i>		<i>High</i>		
<i>Question 7--Favorite Tool = QuickView</i>	<i>Mean</i>	<i>Range</i>	<i>Range</i>	<i>StDev</i>	<i>n</i>
Breaks the ice with customer firms	3.90	3.53	4.27	0.79	20
Performs accurately	3.15	2.62	3.68	1.14	20
Maintains quality of service across projects for different firms	2.63	1.95	3.31	1.42	19
Costs relatively little to purchase for use	4.15	3.69	4.61	0.99	20
Comes with training and support for the tool user	2.68	2.03	3.33	1.34	19
Is easy to use	4.20	3.84	4.56	0.77	20
Can be used for firms in a wide variety of circumstances	4.05	3.54	4.56	1.10	20
Integrates well with the other tools that I use	2.84	2.23	3.45	1.26	19
Saves time and money	3.32	2.76	3.88	1.16	19
Can be used by the customer firms themselves	3.72	3.04	4.40	1.36	18

<i>Question 7--Favorite Tool = Performance Benchmarking</i>	<i>Low</i>		<i>High</i>	<i>StDev</i>	<i>n</i>
	<i>Mean</i>	<i>Range</i>	<i>Range</i>		
Breaks the ice with customer firms	3.27	2.63	3.91	1.45	22
Performs accurately	3.95	3.60	4.30	0.79	22
Maintains quality of service across projects for different firms	3.50	3.01	3.99	1.10	22
Costs relatively little to purchase for use	4.00	3.61	4.39	0.87	22
Comes with training and support for the tool user	3.45	2.93	3.97	1.18	22
Is easy to use	3.50	3.07	3.93	0.96	22
Can be used for firms in a wide variety of circumstances	3.86	3.52	4.20	0.77	22
Integrates well with the other tools that I use	3.24	2.72	3.76	1.14	21
Saves time and money	3.36	2.84	3.88	1.18	22
Can be used by the customer firms themselves	2.82	2.14	3.50	1.53	22